Brian Russ

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Research Interest:

My research focuses on the neural and behavioral mechanisms involved in higher-order cognitive processes. I am particularly interested neural processing of ethological signals related to social cognition.

Education:

2003 – 2008	PhD in Cognitive Neuroscience Dartmouth College Dissertation: *Neural and Behavioral Correlates of Auditory-Object Processing*
1997 - 2001	BS in Psychology Virginia Polytechnic Institute and State University

Research Experience:

2010-present	Post-Doctoral Fellow at National Institute of Mental Health Advisor: Dr. David Leopold *Conducting neuropsychological research on visual attention and the functional organization of the brain in non-human primates.*
2008-2010	Post-Doctoral Fellow at Harvard University Advisors: Dr. Marc Hauser and Dr. Alvaro Pascual-Leone *Conducting behavioral and neuropsychological research on decision making in human and non-human primates.*
2003-2008	Graduate student at Dartmouth College Advisor: Dr. Yale Cohen *Conducting neurophysiological research on the categorization of behaviorally relevant stimuli in Rhesus Macaques*
2001-2003	Research Assistant at University of Pennsylvania Advisor: Dr. Allen Osman *Conducted EEG research on motor imagery*
1999	Undergraduate Research Assistant at Virginia Tech Advisor Dr. Joseph Franchina *Conducted physiological studies on abuse perception in females*

Academic Service:

2008 – 2009	Organized and ran weekly lab meetings for the Cognitive Evolution Lab
2006 – 2008	Graduate Advisor for 4 residential communities at Dartmouth College
2004 – 2008	Organized and led the Graduate Research Roundtable, a graduate student-only research colloquium at Dartmouth College
2003 – 2008	Attended and presented at Social Brain Sciences and Cognitive Brown bag multi-laboratory journal club at Dartmouth College
2001 – Present	Member of the Psi Chi National Honor Society

Grant Support:

Mind, Brain, and Behavior Fellowship. Harvard University. "The causal role of rTPJ and DLPC in action understanding, moral evaluation, and punishment distribution." Sponsors: Marc Hauser (FAS/Psychology) and Alvaro Pascual-Leone (HMS/Neurology). 7/1/09 – Present.

National Institute of Mental Health (NIMH) National Research Service Award (NRSA). "Processing of Communication Signals in Prefrontal Cortex" Brian Russ (PI), Yale Cohen (Sponsor). 10/1/2006 - 6/31/2008.

Awards:

William Smith Promise Award - from the psychological and brain science faculty at Dartmouth College.

Invited Talks*:*

Russ B.E. (2010). Cues to competition recognition in free-ranging rhesus monkeys, Macaca mulatta. Cognitive Brown Bag Colloquium. Psychological and Brain Sciences Department. Dartmouth College. Hanover NH.

Russ B.E. (2009) The causal role of rTPJ and DLPC in action understanding, moral evaluation, and punishment distribution. MBB Postdoctoral Fellows Event. Harvard University. Cambridge MA.

Russ B.E. (2009). The neural correlates of auditory cognition in the vPFC. Unit on Cognitive Neurophysiology and Imaging, NIH. Bethesda, MD.

Russ B.E., Orr L.E., Cohen Y.E. Neurophysiological representation of behavioral choices in the vPFC. Program No. 22.4. 2008 Neuroscience Meeting Planner. Washington, DC: Society for Neuroscience, 2008. Online.

Russ B.E. (2007). Hierarchical auditory-object processing in the macaque cortex. Harvard University. Cambridge MA.

Russ B.E., Cohen Y.E. (2007) Neuronal responses to learned auditory categories in the ventrolateral prefrontal cortex. 2007 APAN conference. San Diego CA.

Russ B.E., (2007) Hierarchical auditory-object processing in the macaque cortex. Princeton University. Princeton NJ.

Publications:

Peer-reviewed Publications:

Russ B.E., Comins J.A., Smith R., Hauser M.D. Recognizing and respecting claims over resources in free-ranging rhesus monkeys, *Macaca mulatta*. Animal Behaviour 80 (3), 563-569 (2010).

Comins J.A., **Russ B.E.**, Humbert K.A., Hauser M.D. Innovative coconut-opening in a semi free-ranging rhesus monkey (Macaca mulatta): a case report on behavioral propensities Journal of Ethology 29 (1), 187-189 (2010).

Russ B.E., Cohen Y.E. Rhesus monkeys' valuation of vocalizations during a free-choice task. PLoS One (2009) vol. 4 (11) pp. e7834.

Cohen Y.E., **Russ B.E.**, Davis S, Baker A.E., Ackelson A.L., Nitecki R. A functional role for the ventrolateral prefrontal cortex in non-spatial auditory cognition. Proc Natl Acad Sci USA (2009).

Cohen Y.E., Lee J.H., Tsunada J., **Russ B.E.** Auditory categories in the non-human primate. Handbook of Mammalian Vocalization. editor: Brudzynski S.M. Elsevier 487-494 (2009).

Lee J.H., **Russ B.E.**, Orr L.E., Cohen Y.E. Prefrontal activity predicts monkeys' decisions during an auditory category task. Front. Integr. Neurosci. 3: 16 (2009).

Russ B.E., Orr L.E., Cohen Y.E. Prefrontal neurons predict choices during an auditory same-different task. Current Biology,18. 1483-1488 (2008).

Russ B.E., Ackelson A.L., Baker A.E. & Cohen Y.E. Coding of auditory-stimulus identity in the auditory non-spatial processing stream. Journal of Neurophysiology 99 (1), 87-95 (2008).

Russ B.E., Lee Y.S. & Cohen Y.E. Neural and behavioral correlates of auditory categorization. Hearing Research 229, 204-12 (2007).

Cohen Y.E., Theunissen F., **Russ B.E.** & Gill P. Acoustic features of rhesus vocalizations and their representation in the ventrolateral prefrontal cortex. Journal of Neurophysiology 97, 1470-84 (2007).

Russ B.E., Kim A.M., Abrahamsen K.L., Kiringoda R. & Cohen Y. E. Responses of neurons in the lateral intraparietal area to central visual cues. Experimental Brain Research 174, 712-27 (2006).

Cohen Y.E., Hauser M.D. & **Russ B.E.** Spontaneous processing of abstract categorical information in the ventrolateral prefrontal cortex. Biology Letters 2, 261-5 (2006).

Osman A., Muller K.M., Syre P. & **Russ B.** Paradoxical lateralization of brain potentials during imagined foot movements. Brain Research Cognitive Brain Research 24, 727-31 (2005).

Cohen Y.E., **Russ B.E.** & Gifford, G. W. 3rd. Auditory processing in the posterior parietal cortex. Behaviorial and Cognitive Neuroscience Reviews 4, 218-31 (2005).

Cohen Y.E., **Russ B.E.**, Gifford G.W. 3rd, Kiringoda, R. & MacLean, K. A. Selectivity for the spatial and nonspatial attributes of auditory stimuli in the ventrolateral prefrontal cortex. Journal of Neuroscience 24, 11307-16 (2004).

Manuscripts in Preparation:

Comins J.A., **Russ B.E.**, Hauser M.D. Rhesus' understanding of ownership: effects of competition and transfer. (*in prep*).

McAuliffe K., **Russ B.E.**, Hauser M.D. Economic decision-making in *Gorilla Gorilla*. (*in prep.*)

Published abstracts:

Lee J.H., Orr L.E., **Russ B.E.**, Cohen Y.E. The effect of learning on vPFC auditory activity during an auditory-categorization task. Program No. 851.7. 2008 Neuroscience Meeting Planner. Washington, DC: Society for Neuroscience, 2008. Online.

Orr L.E., **Russ B.E.**, Cohen Y.E. Disruption of decision-making capacities in the rhesus macaque by prefrontal cortex TMS. Program No. 875.24. 2008 Neuroscience Meeting Planner. Washington, DC: Society for Neuroscience, 2008. Online.

Cohen Y.E., **Russ B.E.**, Ackelson A.L., Davis S., Baker, A.E. Nitecki R. The effect of auditory spatial and non-spatial attention on activity in the ventrolateral prefrontal cortex. Program No. 710.2. 2008 Neuroscience Meeting Planner. Washington, DC: Society for Neuroscience, 2008. Online.

Russ B.E., Chowdhury F.N., Wool L.E., Cohen Y.E. (2007) Neuronal responses to learned auditory categories in the ventrolateral prefrontal cortex. Program No 931.14 2007 Abstract Viewer/Itinerary Planner, Washington, DC: Society for Neuroscience.

Cohen Y.E., **Russ B.E.**, Ackelson A.L., Baker, A.E. Chowdhury F.N., Lee Y.S. (2007) Feature and object processing in the auditory cortex: evidence for hierarchical processing. Program No 227.6 2007 Abstract Viewer/Itinerary Planner, Washington, DC: Society for Neuroscience.

Russ B.E., Olsynski P. Ackelson A.L., Theunissen F., Cohen Y.E. (2007) Auditory spectrotemporal receptive fields in the superior temporal gyrus of rhesus macaques. Abstract 689. Assoc. Res. Otolaryngology

Lee Y.S., **Russ B.E.**, Ackelson A.L., Baker A.E., Cohen Y.E. (2007) The influence of species-specific vocalizations on rhesus' reward choices. Abstract 440 Assoc. Res. Otolaryngol.

Cohen Y.E. **Russ B.E.**, Orr L.E., Wool L.E., Chowdhury F.N. (2007) Auditory-category perception in rhesus macaques Abstract 445. Assoc. Res. Otolaryngology

Russ B.E., Orr L.E., Cohen Y.E. (2006) Auditory category learning in rhesus macaques. Program No 344.5 2006 Abstract Viewer/Itinerary Planner, Washington, DC: Society for Neuroscience.

Cohen Y.E., Hauser M.D., and **Russ B.E.** (2006) Categorical representation of functionally meaningful vocalizations in the ventrolateral prefrontal cortex. Abstr. 507. Assoc. Res. Otolaryngology

Strayer-Benton K.M., **Russ B.E.**, Kiringoda R., Abrahamsen K.L., Cohen Y.E. (2005) LIP neurons are modulated by endogenous central cues. Program No 166.17 2005 Abstract Viewer/Itinerary Planner, Washington, DC: Society for Neuroscience.

Cohen Y.E., **Russ B.E.** Jung D.L., Kiringoda R., Gill P., Theunissen F.E. (2005) The modulation spectra of rhesus vocalizations and the response of neurons in the rhesus ventrolateral prefrontal cortex to stimuli with these spectrotemporal properties. Program No 616.12 2005 Abstract Viewer/Itinerary Planner, Washington, DC: Society for Neuroscience.

Russ B.E. Jung D.L., Kiringoda R., Gill P., Theunissen F.E., Cohen Y.E. (2005) Auditory spectrotemporal receptive fields in the ventrolateral prefrontal cortex. Program No 616.11 2005 Abstract Viewer/Itinerary Planner, Washington, DC: Society for Neuroscience.

Russ B.E., Kim A.M., Cohen Y.E. (2004) LIP neurons are modulated by central cues that indicate the direction of a future saccade. Program No. 649.8. 2004 Abstract Viewer/Itinerary Planner. Washington, DC: Society for Neuroscience.

Osman, A., **Russ, B.**, Syre, P.P. (2003) Functional Coupling of Cortical Motor Areas during Overt and Imagined Movements. Poster presented at the Meeting of the Cognitive Neuroscience Society, New York City.

Osman, A., **Russ, B.**, Albert, R. (2002) Stopping Real and Imagined Movements. Paper presented at the Meeting of the Psychonomics Society, Kansas City.

Teaching:

Harvard University – Teaching Fellowships:

Psych 1152 Cognitive Evolution Lab Course (2 terms)
SB29 Evolution of Human Nature (3 sections)

Dartmouth College - Teaching Assistantships:

Psych 64 Sensory Psychology
Psych 6 Introduction to Neuroscience
Psych 11 Research Methods in Psychology (2 terms)

References:

Yale Cohen, Associate Professor at University of Pennsylvania.
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